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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BROWN, RUEBEN M

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 01/03/2002

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/251,315

Applicant(s)

Dinwiddie, et al

Examiner

Reuben Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 19, 2001
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-37 is/are allowed.
- 6) ☒ Claim(s) 1-24 and 38-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

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DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/19/2001 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-24 & 38-70 have been considered but are moot in view of the new ground(s) of rejection.

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Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

4. Claims 1-4, 10-11, 13-16, 22-23, 39-41, 47-49, 50-51, 53-54 & 61-69 are rejected under 35 U.S.C. 102(e) as being anticipated by McArthur, (U.S. Pat # 5,805,806).

Considering claims 1 & 13, the claimed method and apparatus for bi-directionally exchanging unmodulated digital signals between digital signal apparatus interconnected over a complete network comprised of plural single conductor cables interconnected through a distribution unit, such that the network includes computers, which are interconnected through the single conductor coaxial cables simultaneously with bi-directional broadband RF modulated video signals between video signal apparatus over the same cables throughout the network, wherein the video signal apparatus includes one or more video signal sources and one or more video signal receivers, the coaxial cables having a cable characteristic impedance, comprising establishing a plurality of signal frequency channels, including an REF video channel and a PC digital signal

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channel, each frequency having a different frequency range is met by the operation of McArthur, (Fig. 1; Fig. 4; Table 1; col. 4, lines 15-30). McArthur discloses that the home entertainment includes cable interface 10 and taps 12, or alternatively distribution amplifier 11, which provide for bi-directionally passing both unmodulated baseband digital signals and RF modulated video signals. The claimed distribution unit reads on the distribution amplifier 11 of McArthur.

The claimed method of connecting the signal (I/O) ports of each digital signal apparatus to a first terminal of a digital signal frequency filter, a second terminal of which is connected to a coaxial cable, wherein the digital signal frequency filter has a frequency passband that is substantially equal to the frequency range of the PC digital signal channel, such that the digital signal frequency filter provides a substantially equal characteristic impedance to the unmodulated digital signals resulting in the unmodulated digital signals being exchanged bi-directionally, at a signal bit speed between the first and second terminals, reads on the operation of both the LAN Interface 26 and LAN/VIDEO Interface 30, (Fig. 4; Fig. 7; Fig. 8). McArthur teaches that each interface enables bi-directional communication, see col. 8, lines 32-61).

The additionally claimed method of connecting each RF modulated video signal apparatus to a cable through an RF video signal frequency filter having a frequency passband that is substantially equal to the frequency range of the RF video signal channel, such that the RF video signal frequency filter provides a substantially equal filter characteristic impedance to the RF

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modulated video signals resulting in the RF modulated signals propagating bi-directionally therethrough between the RF modulated signal apparatus and the cable, reads on the operation of the TV interface 34, (Fig. 9A; Fig. 9B; Fig. 10; col. 9, lines 3-67).

As for claim 13, the instant claim recites both a plurality of digital signal frequency filters and a plurality of RF video signal frequency filters. The plurality of digital signal frequency filters reads on LAN, LAN/VIDEO Interface 26 & 30, whereas the plurality of RF video signal frequency filters reads TV Interface 34 and Camera Interface 32, moreover McArthur teaches that the disclosed network nodes may be expanded to include additional nodes, col. 5, lines 55-59.

Considering claims 2, 14 & 39, the digital PC signals of McArthur are transmitted at a lower range than the RF video signals.

Considering claims 3-4, 15-16, 40-41, 50-51, 68 & 70, McArthur discloses the claimed impedance matching network, col. 8, lines 55-59. As for the claimed series and shunt resistance, the resistor 140 with a value of Z_0 , is a shunt resistor. Even though McArthur does not explicitly disclose a series resistance value, such an impedance feature is inherently included in the disclosed impedance matching termination operation.

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Considering claims 10, 22 & 47, the unmodulated digital signals are transmitted at least 1 MB/S, see Table 1.

Considering claims 11, 23, 48 & 53, one of the purposes of the system of McArthur is to minimize interference between unmodulated and RF modulated signals, col. 8, lines 64-67.

Considering claim 38, the claimed elements of an apparatus for bi-directionally distributing RF modulated broadcast TV signals from a broadcast signal source, which corresponds with subject matter mentioned above in the rejection of claims 1 & 13, are likewise rejected. The additionally claimed feature of a device which comprises the distribution unit for bi-directionally transmitting and receiving RF modulated signals on a plurality of interconnected coaxial cables, reads on the operation of the Distribution Amplifier, see Fig. 4.

Considering claims 49 & 61, the claimed elements of an apparatus for bi-directionally distributing RF modulated broadcast TV signals from a broadcast signal source, which corresponds with subject matter mentioned above in the rejection of claims 1 & 13, are likewise rejected. The additionally claimed feature of alternatively in response to infrared (IR) command signals received from IR signal sources controlled by an operator, signals exchanged between the networked appliance over the same coaxial cables network, the exchanged signals including RF modulated video signals, unmodulated digital signals, and the received IR command signals, is

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met by the operation of McArthur, (Fig. 12; col. 9, lines 28-36; col. 11, lines 28-42). Claim 61 contains subject matter which substantially corresponds with claim 49, and is likewise rejected.

Considering claim 54, the claimed distribution bus reads on the operation of the PCI bus 90 of Fig. 7 and the string of taps 12 shown in Fig. 1.

Considering claims 62-66, McArthur couples the RF modulated signals to the appropriate ports of the TV Interface 34, Camera Interface 32, Cable Interface 10 and/or Distribution Amplifier 11. As for claims 63-64, the claimed features read on the operation of the TV Interface 34, Camera Interface 32, Cable Interface 10 and/or Distribution Amplifier 11

Considering claim 67, the claimed elements of an apparatus for bi-directionally distributing RF modulated broadcast TV signals from a broadcast signal source, which corresponds with subject matter mentioned above in the rejection of claims 1 & 13, are likewise rejected. The additionally claimed feature of a processing circuit connected to the RF modulator for programming the modulator by sending bytes for initializing a picture carrier frequency, a sound carrier frequency and a video modulation depth reads on the operation of McArthur which assigns various video channels, see Table 1 & Table 2. As for the claimed impedance matching network, the claimed feature is also taught by McArthur, (Fig. 2; col. 6, lines 26-50).

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Considering claim 69, the claimed features are met by the operation of McArthur.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

6. Claims 5, 9, 12, 17, 21, 24, 43, 46, 52 & 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over McArthur.

Considering claims 9, 12, 21, 24, 46 & 57 the instant claimed method an apparatus which correspond with subject matter mention above in the rejection of claims 1 & 12, are likewise rejected. Claims 9, 12, 21 & 24 include the additional limitations that the PC digital frequency range is substantially from 0 to 2.5 MHZ. In McArthur the PC digital frequency range is from 0 to 50 MHZ. Official Notice is taken that at the time the invention was made, it was well known in the art of home distribution system to utilize a narrow range to transmit baseband data signals. It

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would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify McArthur with the known technique of transmitting baseband data signals on a more narrow frequency spectrum, at least for the desirable benefit of reserving more available bandwidth in order to the use of TV channels, which require more bandwidth than the less data intensive baseband data signals.

Considering claims 5, 17, 42 & 52, the claimed shunt resistance with a value equal to the cable characteristic impedance is met the Z_0 value of the resistor 140. As for the series resistor having an impedance in the range of $1/3$ to $2/3$ of the shunt impedance, it would have been obvious for one of ordinary skill in the art at the time the invention was made, to provide the proper impedance required in order to most accurately transfer the signals between the terminals.

Considering claims 55-56, Official Notice is taken that at the time the invention was made, it was well known in the art to design signal distribution means which take into account its wave guide effects. It would have been obvious for one ordinary skill in the art at the time the invention was made, to modify the signal transmission mediums of McArthur with any number of lengths derived, at least for the known benefit of minimizing waveguide and interference effects.

7. Claims 6-8, 18-20, 43-45 & 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over McArthur, in view of Hansen, (U.S. Pat # 5,255,267).

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Considering claims 6-8, 18-20, 43-45 & 58-60, Hansen discloses third order filter technology, (col. 3, lines 24-34). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify McArthur with the well known third order filter technology, for the desirable benefit of improved interference prevention, as taught by Hansen. Regarding claims 5 & 20, Official Notice is taken that at the time the invention was made, fifth order filter technology was well known in the art. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Hansen with the well known technology of fifth order filters, at least for the desirable benefit of a more precise filtering means.

Allowable Subject Matter

8. Claims 25-37 are allowed. Considering claims 25 & 37, McArthur discloses all subject, except the additionally claimed feature of, "coupling the RF modulated video signals and the unmodulated digital signals received at each said signal port to each other signal port, without port-to-port isolation". Even though McArthur is directed to bi-directional communication of both unmodulated digital signals and RF video signals, within the same network, the instant reference operates by explicitly isolating the unmodulated digital signals and RF video signals, see col. 8, lines 38-40; col. 8, lines 64-67 & col. 9, lines 14-16. Claims 26-36, directly or indirectly depend from an allowed claim, and are therefore allowable for at least the same reasons.

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Or:


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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown whose telephone number is (703) 305-2399. The examiner can normally be reached on Monday thru Friday from 830am to 430pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile, can be reached on (703) 305-4380. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.


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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600